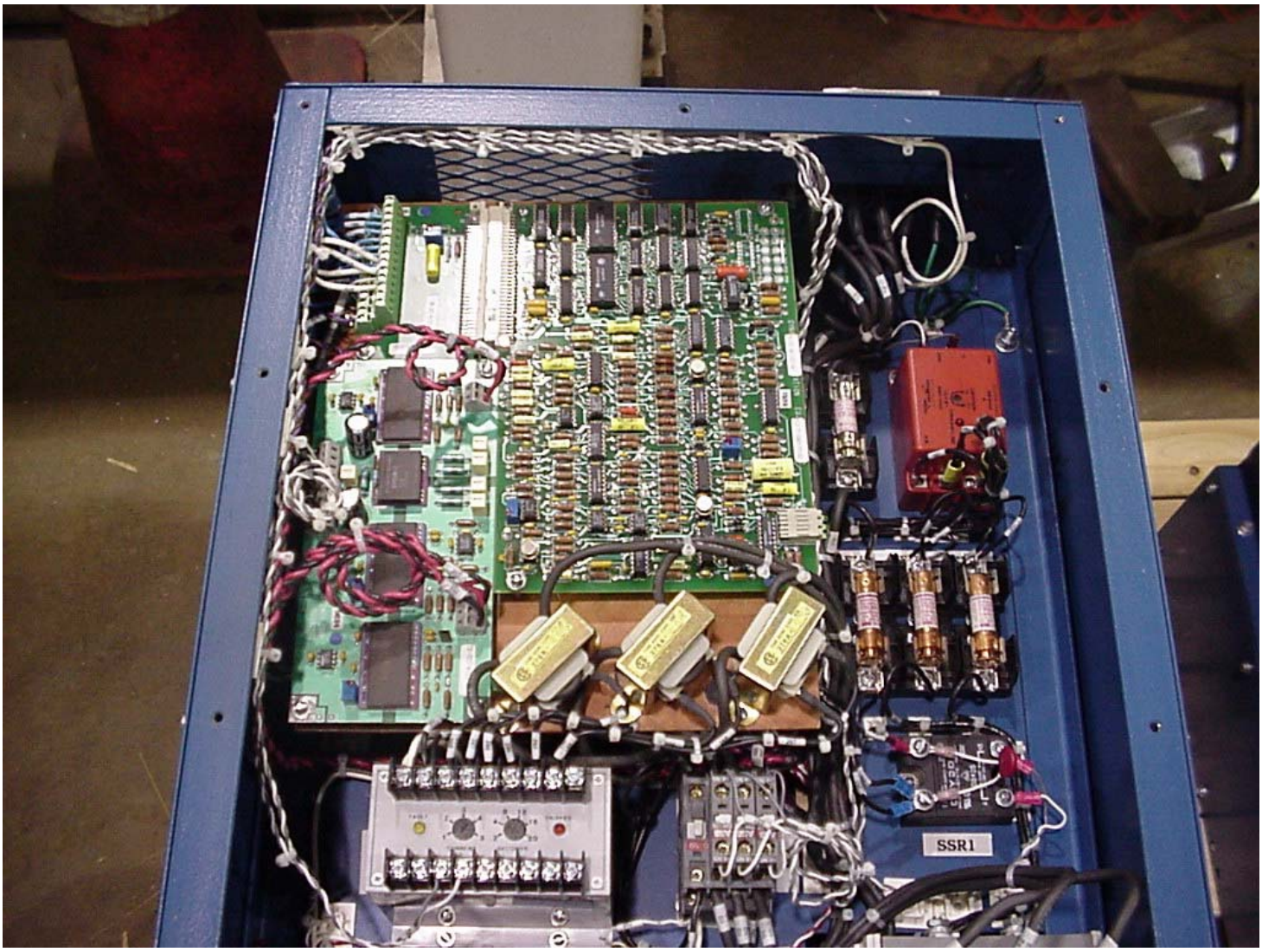
FiringBoardIntlkCirInstallPro3.doc

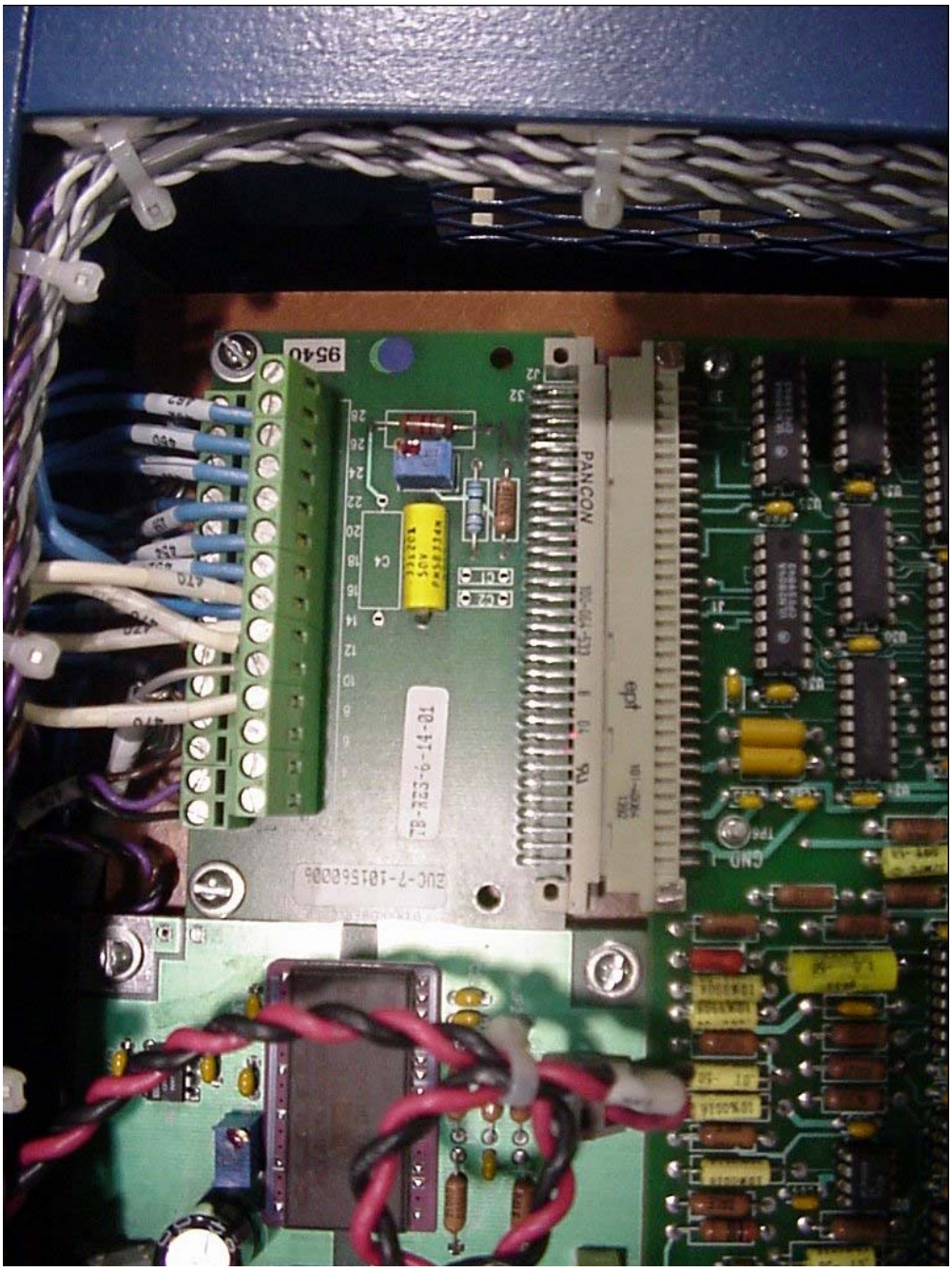
Firing Board Interlock Circuit Installation Procedure 5/29/02

1. The 13J firing board must be installed before you install and wire up the firing board interlock circuit.

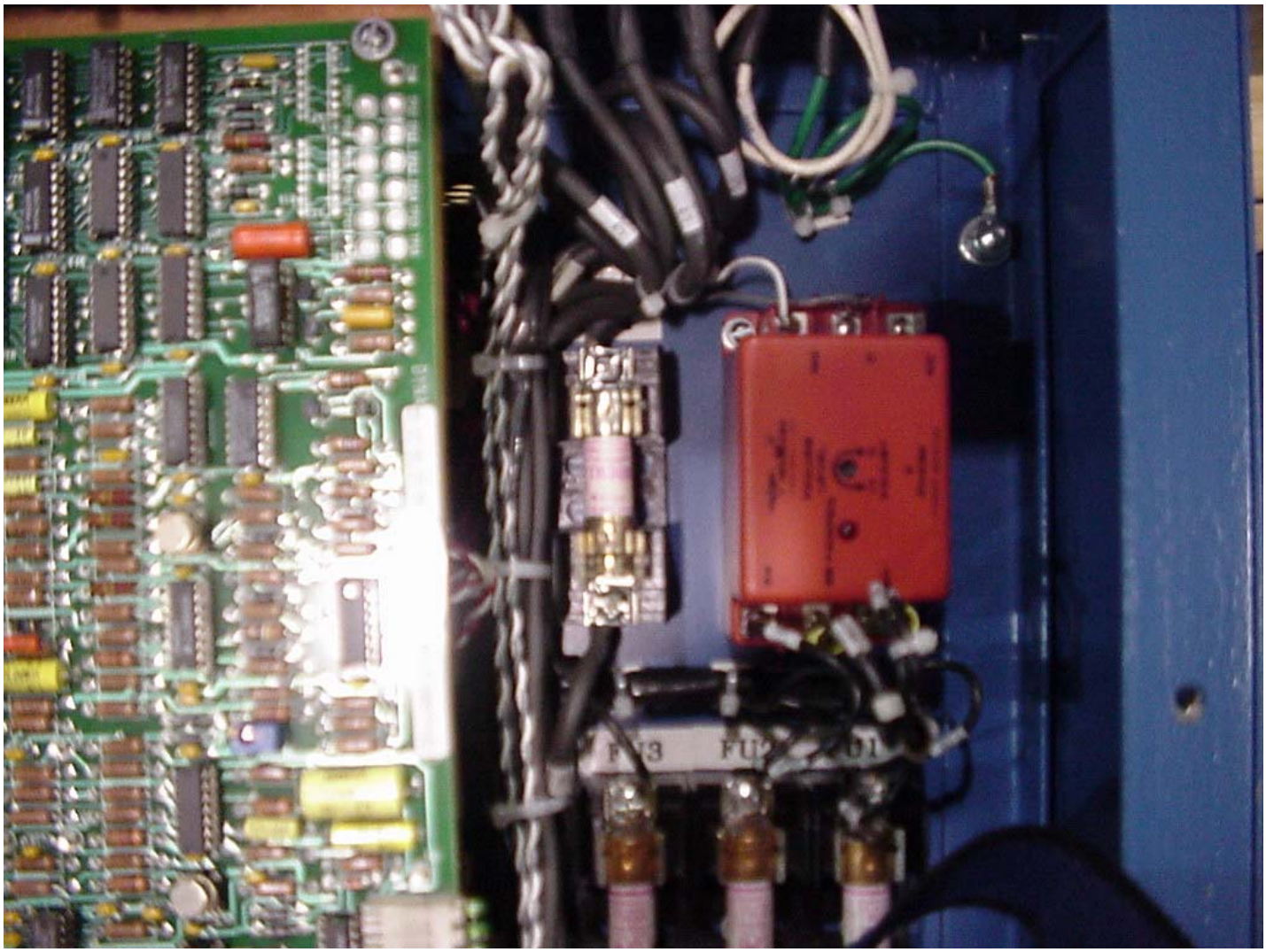
2. The 13J firing board plugs into a small green board with some resistors and capacitors on it called a phase shift board. This phase shift board plugs into a two level Connector labeled J1. We will call this J1 of the phase shift board. Make sure you understand how each screw crimp connection on the green 2 level connector is numbered. It can be confusing. See the following photo that shows the phase shift board, firing circuit and Phase Sequence Relay (PSR). This photo is before the firing board interlock circuit is mounted.



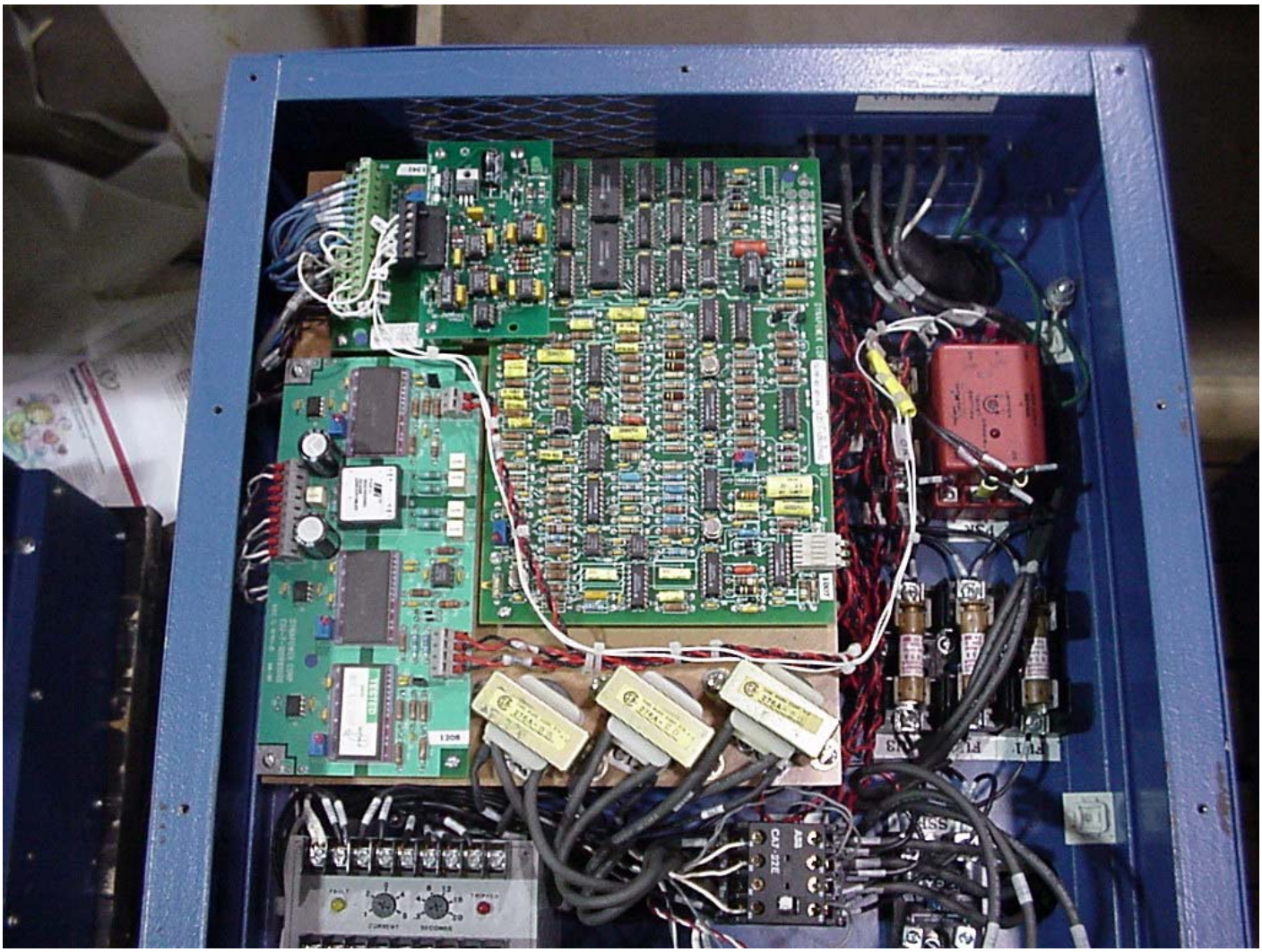
3. This photo is a close up of the phase shift board before the firing board interlock circuit is installed. The green two level J1 connector is to the left of the phase shift board. It has blue wires coming out of it. The beige DIN connector is to the right. This DIN connector plugs into the firing board which is cut off in the photo. Also notice that at the top right and bottom right of the green phase shift board there are empty holes. This is where two of the standoffs go for the firing board interlock circuit. Across from the top right hole there is a screw in the 13J firing board. This screw gets removed and another standoff goes into that hole to hold up the firing board interlock circuit. A total of 3 standoffs hold up the firing board interlock circuit.



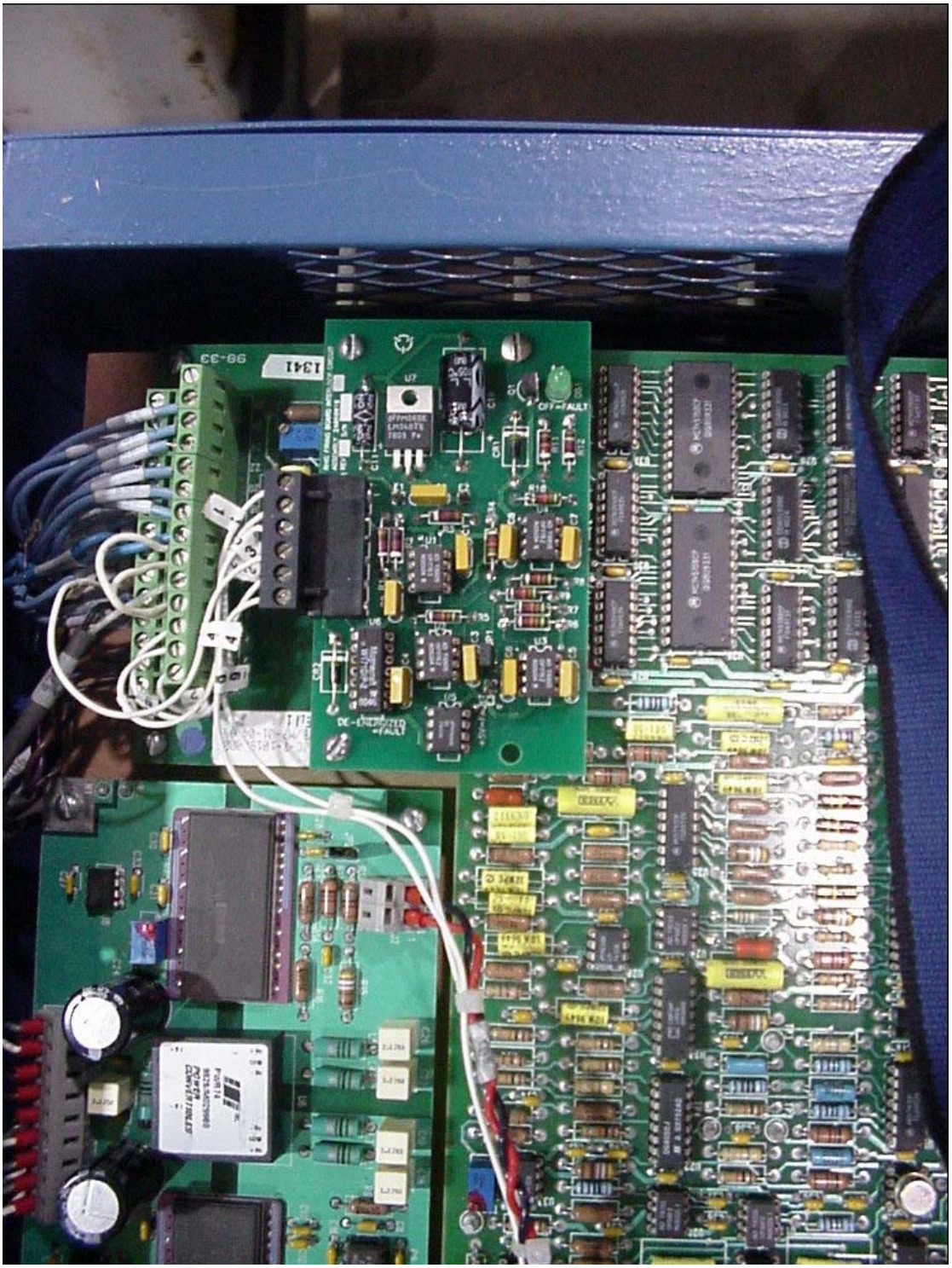
4. This photo is a little blurry but this is the Orange Phase Sequence Relay (PSR) before it has had its wiring modified. If you look close you can see one white wire on the NO and the other gray wire on the C. There is no wire on the NC.



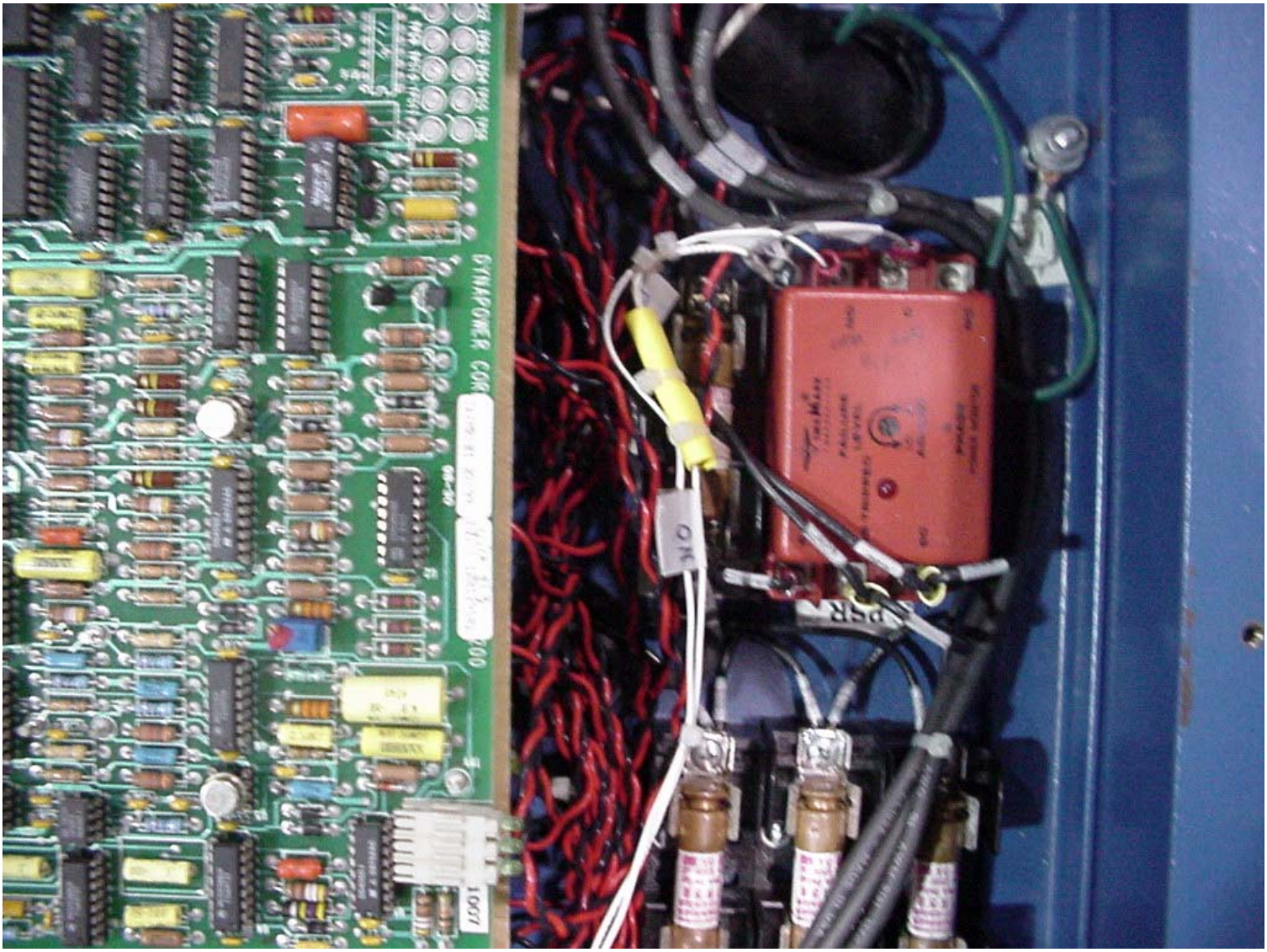
5. The mounting of the firing board interlock circuit is the same for a rackmount or stand alone p.s. You need a firing board interlock circuit and 3 standoffs. See the following photo that shows a firing board interlock circuit mounted on the top of the firing circuit of a rackmount p.s. Also notice the white wiring running to the orange PSR.



6. The photo below is a close up view of the firing board interlock circuit and the new white wiring between J1 on the firing board interlock circuit and J1 on the phase shift board.

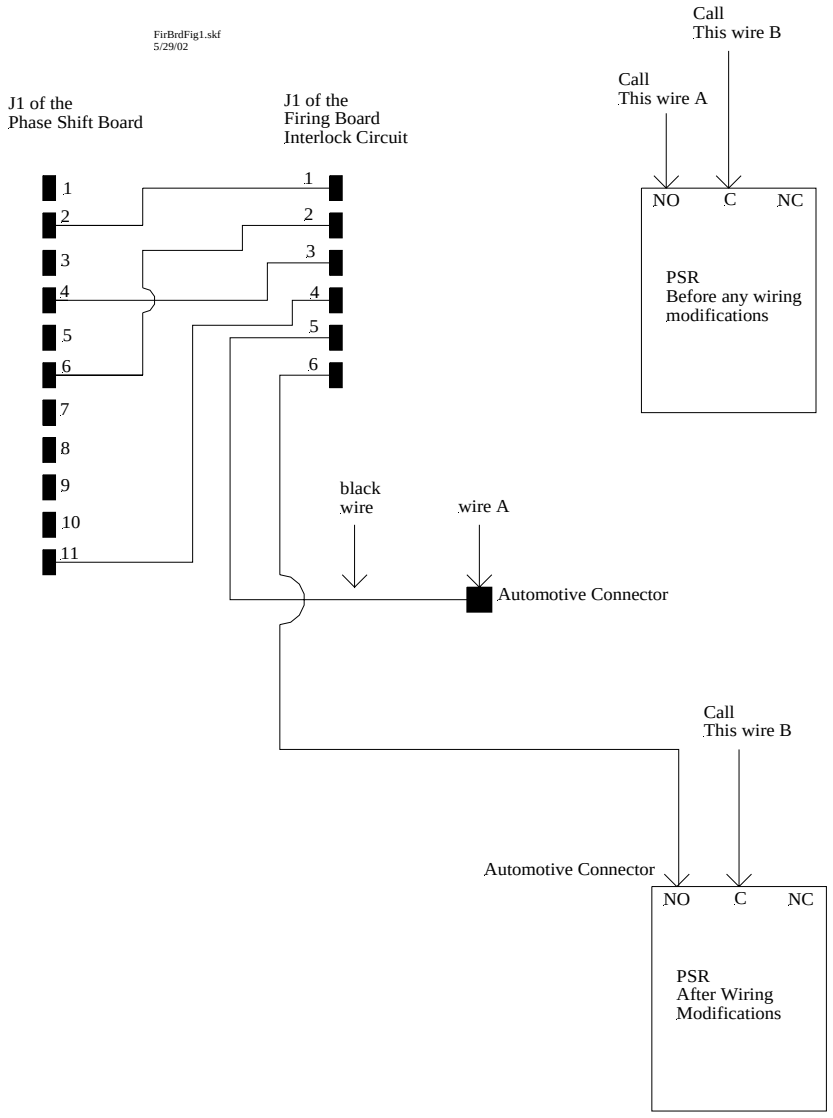


7. The photo below is a close up view of the orange PSR after the wiring has been modified. Notice the yellow heat shrink with the tie wrap. Do not heat the heat shrink. Just put it around the connection and tie wrap it. The connection will be two automotive lugs that plug into each other.



8. The figure below shows the wiring between the firing board interlock circuit J1, J1 of the phase shift board and the PSR. You must remove the wire going to the NO connection of the PSR (wire A) and connect it to the wire coming from the firing board interlock circuit J1-5. Then you must take the wire coming from the firing board interlock circuit J1-6 and connect it to the PSR NO connection. Put automotive connectors on the wires from the firing board interlock circuit (J1-5 and J1-6). Cover the connection between the firing board interlock circuit J1-5 and the wire that came off of the PSR NO (wire A) with heat shrink, but don't shrink it, you can use a tie wrap to stop it from moving. The rest of the wiring can be seen in the diagram below.

Firing Board Interlock Circuit Wiring



9. On all of the rack mount units the PSR is mounted in the top of the p.s. In the stand-alone units the PSR is located behind the top front door. The firing circuit is located behind the front lower panel with the air filter in it. The firing board interlock circuit still gets mounted on the top of the firing circuit with the standoffs but you must feed wires up through the expanded metal to wire to the PSR up above. Be careful to protect the wires.

10. PLEASE INSTALL THE JP1 JUMPER ON THE FIRING BOARD INTERLOCK CIRCUIT AND YOU ARE DONE. Close up the p.s. Thank you.

Interlock Test Procedure

1. Install a pigtail wire on interlock board J1-5. Leave wire already installed in J1-5 connected as well. Remove wire going to Phase Shift Relay (PSR) N.O. side.
2. Connect two jumpers from this pigtail. (see drawing on next page)
   - 2a. From pigtail to wire removed from N.O. side.
   - 2b. From pigtail to PSR Common.
3. With power supplied to hkps, and ps in standby, press reset button on control card. The AC IMBAL. light should be off. If not, check your jumper connections.
4. Now disconnect jumper wire going to wire removed from PSR Common AC IMBAL. light should go on. Reconnect wire and press reset button. AC IMBAL. light should clear.
5. Now remove both wires from pigtail at J1-5. Be sure to keep both jumpers jumped together, but remove them simultaneously from the pigtail. The AC IMBAL. light should go on. Reconnect wires to pigtail and press reset. The AC IMBAL. Should clear. You are now done testing. Please remove jumpers and reconnect PSR N.O. wire.

Firing Board Interlock Circuit
Testing Wiring

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